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***Indian Standard***  
**SPECIFICATION FOR**  
**ENGINEERS' DRAWING INSTRUMENTS,**  
**BORDERING PENS**

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**BUREAU OF INDIAN STANDARDS**  
**MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG**  
**NEW DELHI 110002**

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# Indian Standard

## SPECIFICATION FOR ENGINEERS' DRAWING INSTRUMENTS, BORDERING PENS

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AMENDMENT NO. 1 APRIL 1983

TO

IS:5726-1970 SPECIFICATION FOR  
ENGINEERS' DRAWING INSTRUMENTS,  
BORDERING PENS

Addenda

(Page 5, clause 5.1) - Add the following new matter at the end of the clause:

'if made of carbon steel.'

(Page 5, clause 7.3) - Add the following new matter at the end of the clause:

"conforming to the requirements of IS: 696-1972  
'Code of Practice for General Engineering  
Drawings'."

(EDC 36)

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Reprography Unit, BIS, New Delhi, India

*Indian Standard*  
**SPECIFICATION FOR  
ENGINEERS' DRAWING INSTRUMENTS,  
BORDERING PENS**

**0. FOREWORD**

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 2 July 1970, after the draft finalized by the Optical and Mathematical Instruments Sectional Committee had been approved by the Mechanical Engineering Division Council.

**0.2** Bordering pen is a drawing instrument used by architects, engineers and draughtsmen for drawing in ink borders of uniform thickness.

**0.3** This standard covers the requirements of bordering pens having two outer nibs and one central nib. For drawing borders with the help of the bordering pen, it is essential that the drawing nib should be flat-ended with an edge so that it may easily follow the straight edge.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS: 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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**1. SCOPE**

**1.1** This standard covers the requirements of bordering pen having a handle and drawing nib. The bordering pen may be plain or lifting-nib type. In case of lifting-nib type, both the outer nibs should have provision to lift.

**2. MATERIAL AND HARDNESS**

**2.1** The material for the manufacture of the drawing nib shall be steel having a carbon content of 0.60 to 0.75 percent or a suitable grade of stainless steel.

**2.2** The handle shall be made of suitable light-weight material.

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\*Rules for rounding off numerical values (revised).

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2.3 The drawing nib shall have a minimum hardness of 230 *HV*.

### 3. DIMENSIONS

3.1 The dimensions of the bordering pen shall be as shown in Fig. 1.

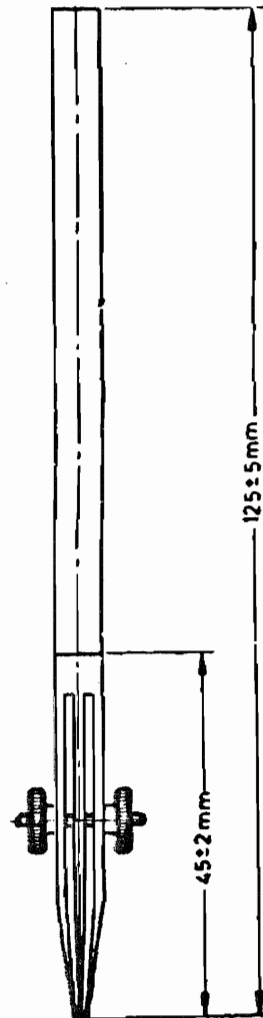


FIG. 1 DIMENSIONS FOR BORDERING PEN

**3.1.1** The figure is intended only to illustrate the dimensions, and the design details are left to the discretion of the manufacturer so long as the specified dimensions are maintained.

**3.2** The threads on the drawing nib and in the handle, if any, shall be M3.

#### **4. GENERAL REQUIREMENTS**

**4.1** The drawing nib shall have a well-designed ink space between the two outer nibs and the points of the outer nibs rounded in an elliptical form for smooth working.

**4.2** The lifting nib shall be so constructed that it forms a spring in itself and remains tightly pressed against the adjusting screw throughout the range of its setting.

#### **5. WORKMANSHIP AND FINISH**

**5.1** The drawing nib shall be hardened, tempered, polished and honed.

**5.2** The handle shall be smooth and well-finished.

**5.3** When the drawing nib is made from carbon steel, it shall be chromium plated according to Service Grade No. 2 of IS : 1068-1968\*.

#### **6. SCREWS**

**6.1** The screws in the bordering pen shall conform to the requirements specified in IS : 3222 ( Part I )-1966†.

#### **7. TESTS**

**7.1 Dimensional Test** — The bordering pen shall be tested for conformity with the requirements for dimensions specified in 3.1.

**7.2 Hardness Test** — The drawing nib shall be tested for conformity with the requirement for hardness specified in 2.3.

**7.3 Functional Test** — The bordering pen shall be tested to ensure that it draws neat and smooth borders of uniform thickness.

#### **8. MARKING**

**8.1** The bordering pen shall be marked with the manufacturer's name or trade-mark at a suitable place.

\*Specification for electroplated coatings of nickel and chromium on iron and steel (first revision).

†Specification for instrument screws: Part I Fasteners for drawing instruments

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**8.1.1** The bordering pens may also be marked with the ISI Certification Mark.

NOTE — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1936 and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

## **9. PACKING**

**9.1** The bordering pen shall be first wrapped in paper and then packed in a suitable carton.



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